

Amendments to the Claims:

1. (CURRENTLY AMENDED) A multichannel digital filter bank implemented by cascading sub-filters of the recursive type suitable for graphically equalizing electrical signals received via a communication path having minimal distortion of signal spectral characteristics including magnitude and phase nor does this method introduce additional delay to the signal comprising:

a plurality of first order or second order digital filters, connected in a cascade fashion, whereby said electrical signals are enhanced, attenuated or kept the same, after passing through said cascading sub-filters, wherein said first order or second order digital filters are of the recursive type suitable for graphically equalizing electrical signals received via a communication path, wherein said first or second order digital filters have minimal distortion of signal spectral characteristics including magnitude and phase, wherein said first order or second order digital filters do not introduce additional delay of said electrical signals received via said communication path, and wherein said first or second order digital filters do not require multiple sampling frequencies.

2. (PREVIOUSLY PRESENTED) The multichannel digital filter bank of claim 1, wherein said digital filters are first order and have a transfer function whose equation is

$$H_i(z) = (1 - az^{-1}) / (1 - bz^{-1})$$

absolute values of a and b are < 1

a and b have the same sign.

3. (CURRENTLY AMENDED) The multichannel digital filter bank of claim 1 wherein said filters are second order and have a transfer function whose equation is

$$H_i(z) = (1 - 2g_i \cos(p_i)z^{-1} + g_i^2 z^2) / (1 - 2r_i \cos(p_i)z^{-1} + r_i^2 z^2)$$

4. (CURRENTLY AMENDED) A method for equalizing electrical signals received via a communication path having minimal distortion of signal spectral characteristics including magnitude and phase wherein this method does not introduce additional delay to the signal, comprising the steps of:

filtering the electrical signals using first order or second order digital filtering, wherein said filters are cascade connected, whereby said electrical signals are enhanced, attenuated, or kept the same, after said step of filtering the electrical signals using first order or second order digital filtering, wherein said filters are cascade connected, wherein said first order or second order digital filtering are of the recursive type suitable for graphically equalizing electrical signals received via a communication path, wherein said first or second order digital filtering have minimal distortion of signal spectral characteristics including magnitude and phase, wherein said first or second order digital filtering do not introduce additional delay of said electrical signals received via said communication path, and wherein said first or second order digital filtering do not require multiple sampling frequencies.

5. (ORIGINAL) The method of claim 4, wherein the digital filters are of the first order, comprising the steps of:

using a transfer function whose equation is:

$$H_i(z) = (1 - az^{-1}) / (1 - bz^{-1})$$

absolute values of a and b are < 1

a and b have the same sign.

6. (ORIGINAL) The method of claim 4, wherein the digital filters are of the first order, comprising the steps of:

using a transfer function whose equation is:

$$H_i(z) = (1 - 2g_i \cos(p_i)z^{-1} + g_i^2 z^2) / (1 - 2r_i \cos(p_i)z^{-1} + r_i^2 z^2)$$

parameters g and r of the digital filters which determine whether the filter bank enhances the signal, attenuates the signal or simply returns the identical input signal undelayed as the output.